

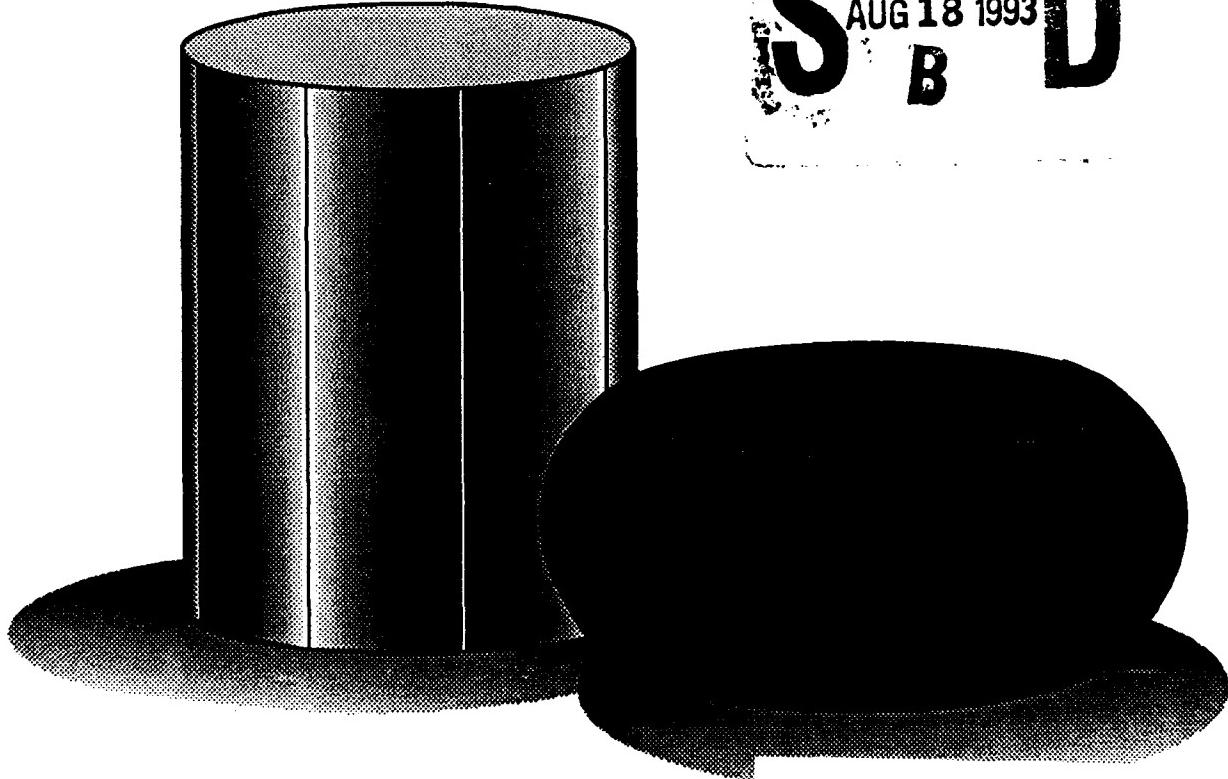
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A handwritten signature in black ink, appearing to read "R. S." or "R. S. S." in a stylized, cursive font.

Atlas of Formability

Aluminum 3004
Flow Stress Curves



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**ATLAS OF FORMABILITY
ALUMINUM 3004**

by

Howard A. Kuhn

**National Center for Excellence in Metalworking Technology
1450 Scalp Avenue
Johnstown, PA 15904**

for

**Naval Industrial Resource Support Activity
Building 75-2, Naval Base
Philadelphia, PA 19112-5078**

June 30, 1991

The views, opinions, and/or findings contained in this report are those of the authors and should not be construed as an official Department of the Navy position, policy, or decision, unless so designated by other documentation

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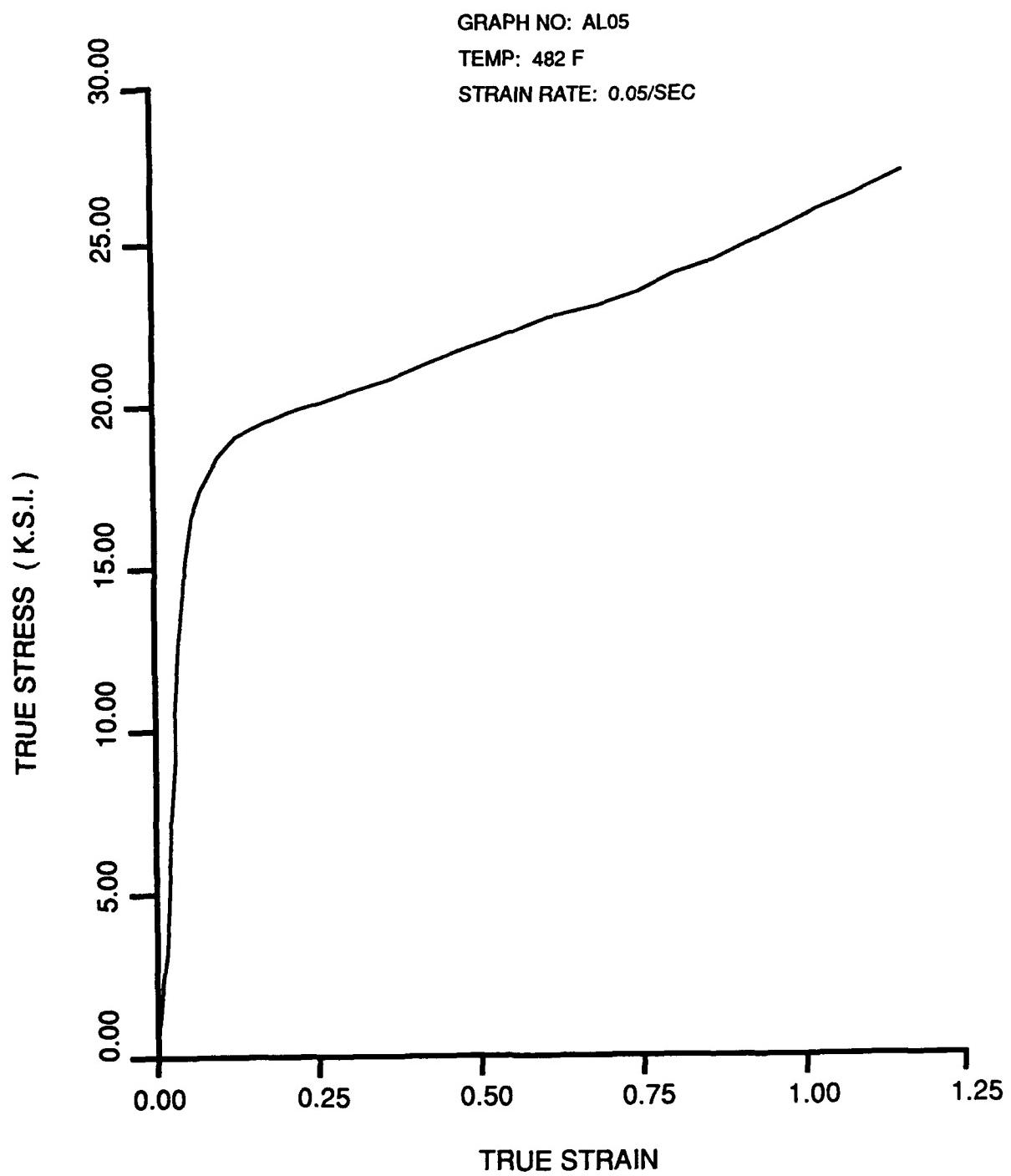
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Aluminum 3004

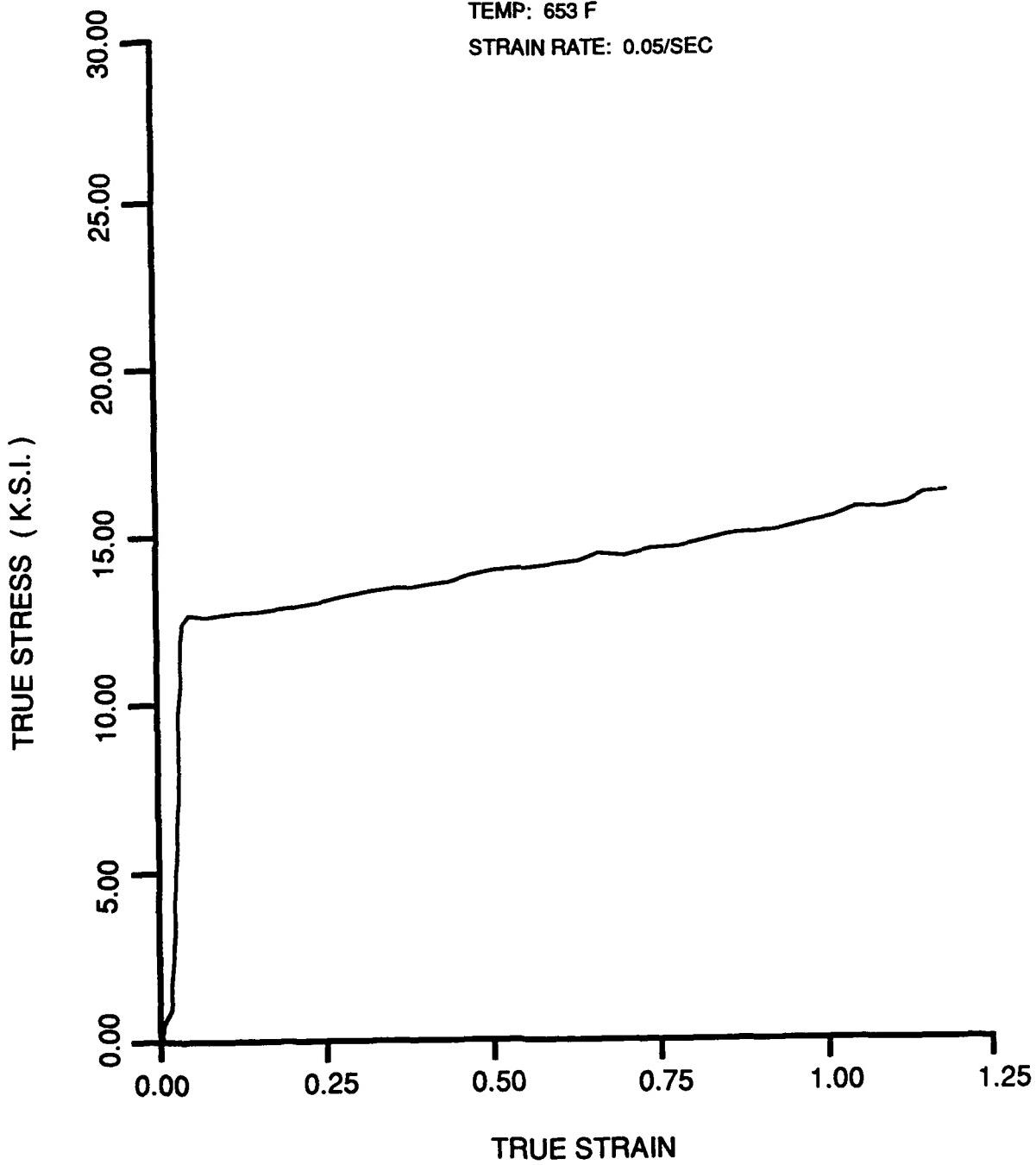
Testing Parameters

Strain Rate (1/sec.)	Temperature (deg. F)	Graph Number	Page Number
0.05	482	AL05	2
0.05	653	AL14	3
0.05	900	AL08	4
0.05	Combination	AL20	5
0.1	527	AL11	6
0.1	816	AL12	7
0.1	Combination	AL21	8
1.0	482	AL15	9
1.0	653	AL19	10
1.0	900	AL16	11
1.0	Combination	AL22	12
6.6	527	AL09	13
6.6	826	AL10	14
6.6	Combination	AL23	15
15.0	482	AL02	16
15.0	653	AL13	17
15.0	900	AL03	18
15.0	Combination	AL24	19

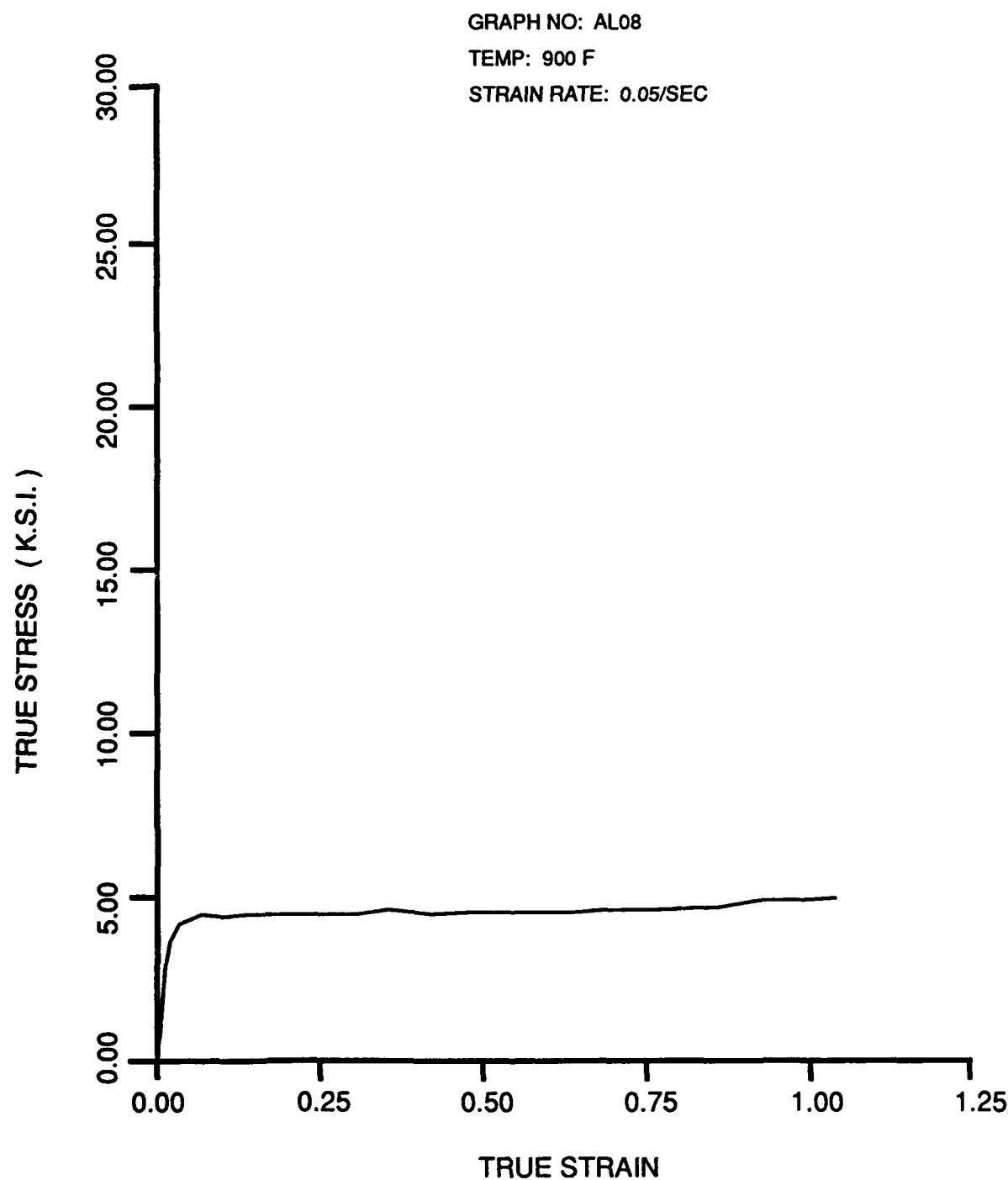


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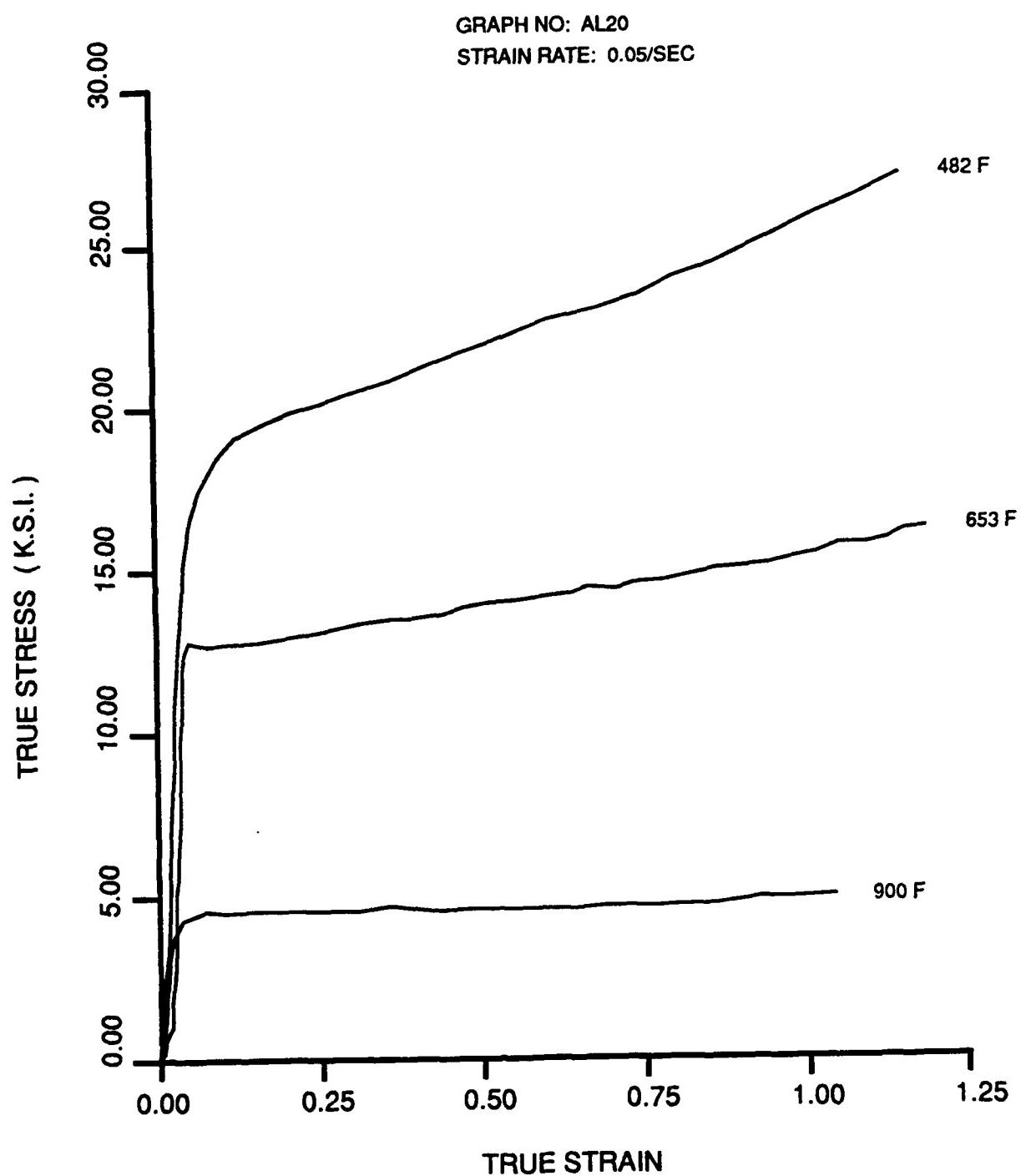
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TEMP: 653 F
STRAIN RATE: 0.05/SEC



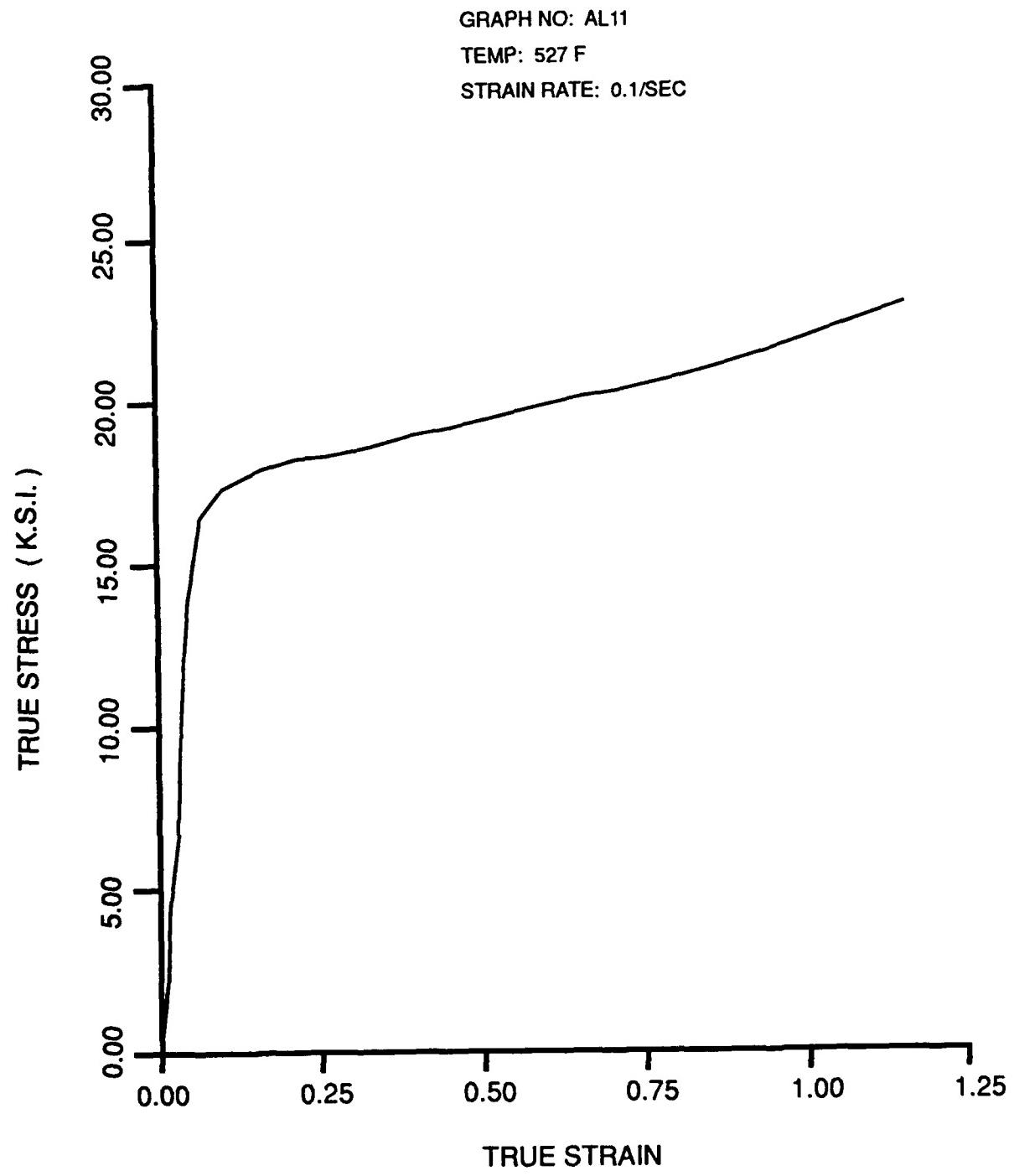
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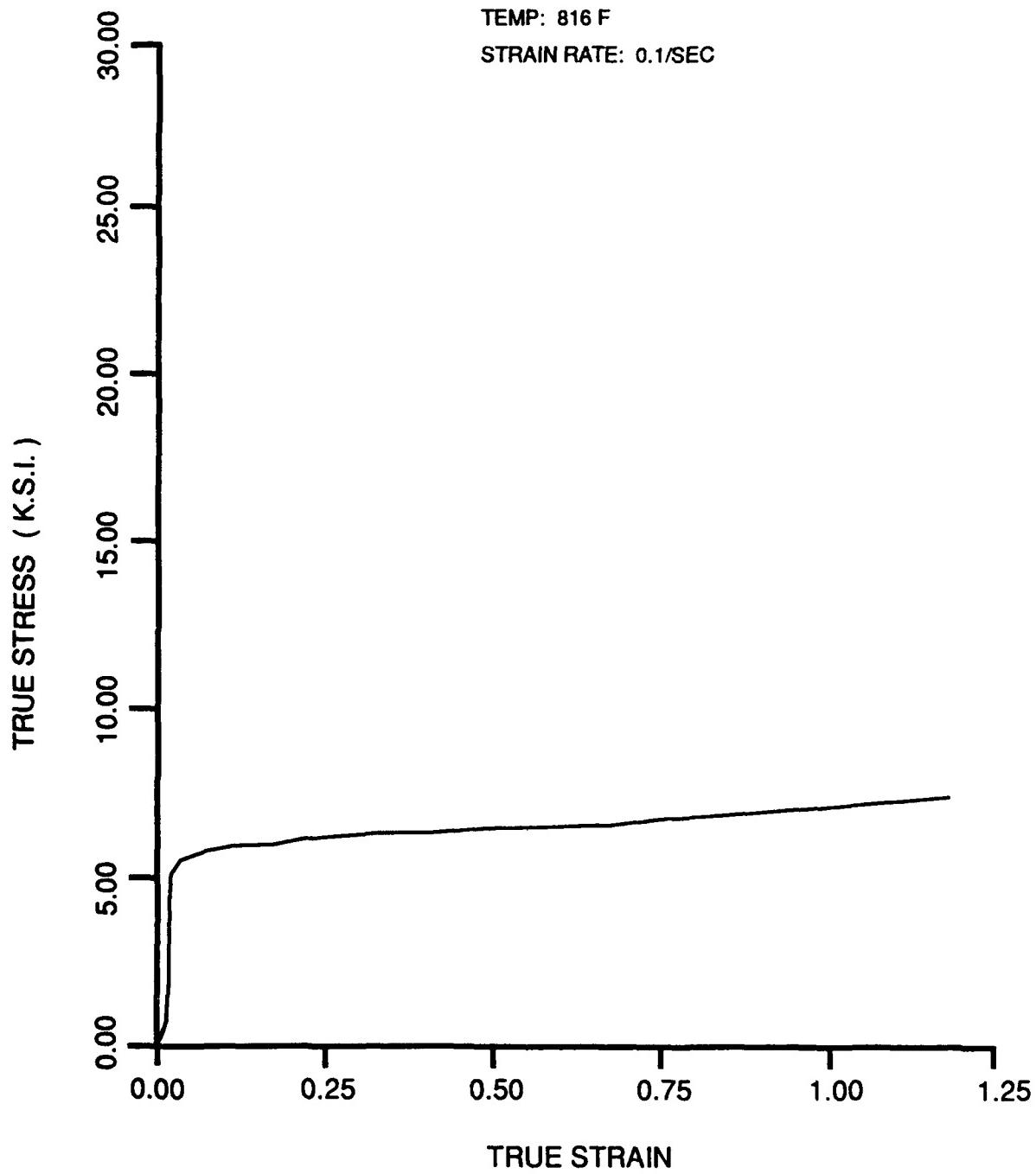


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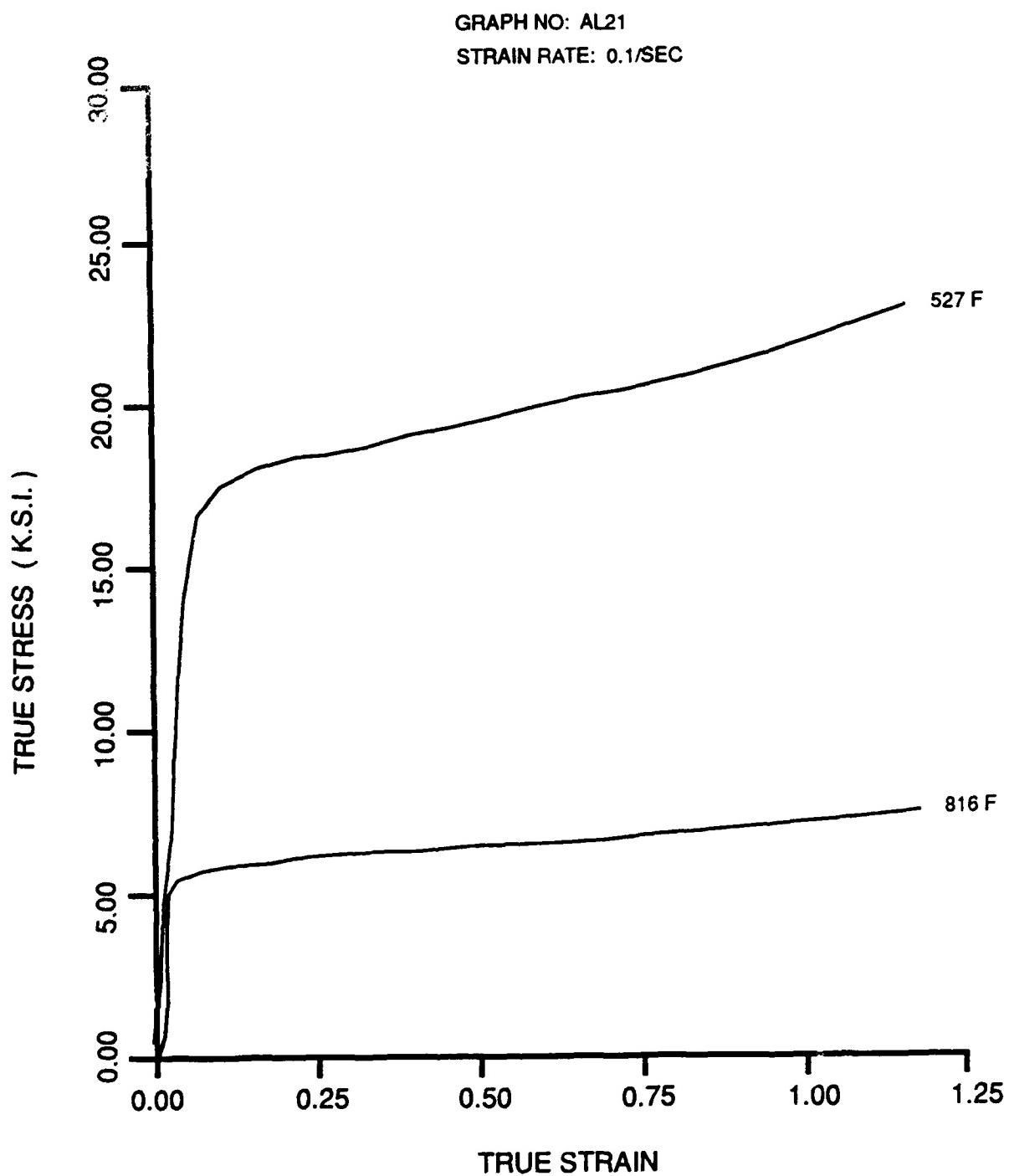


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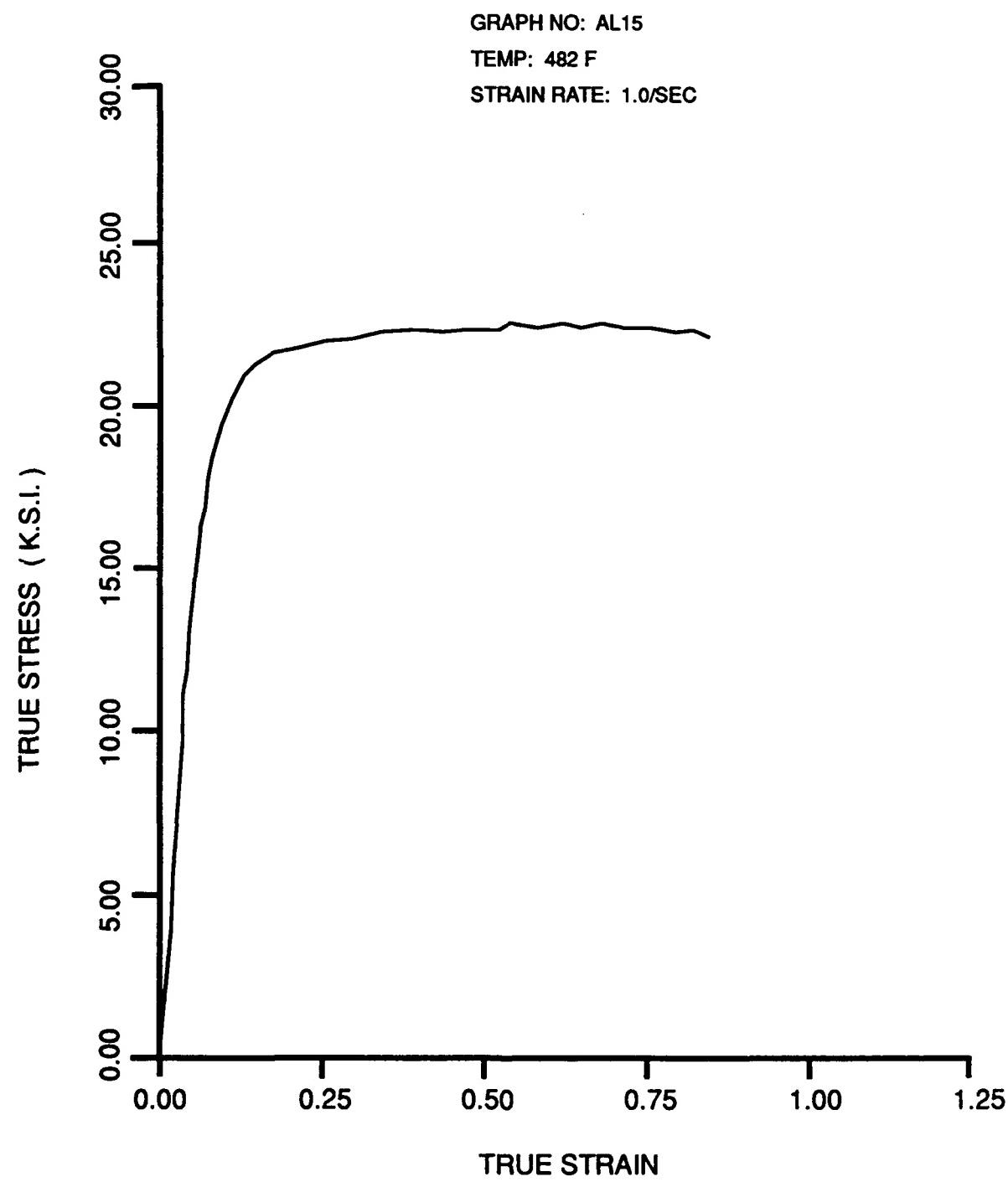
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STRAIN RATE: 0.1/SEC



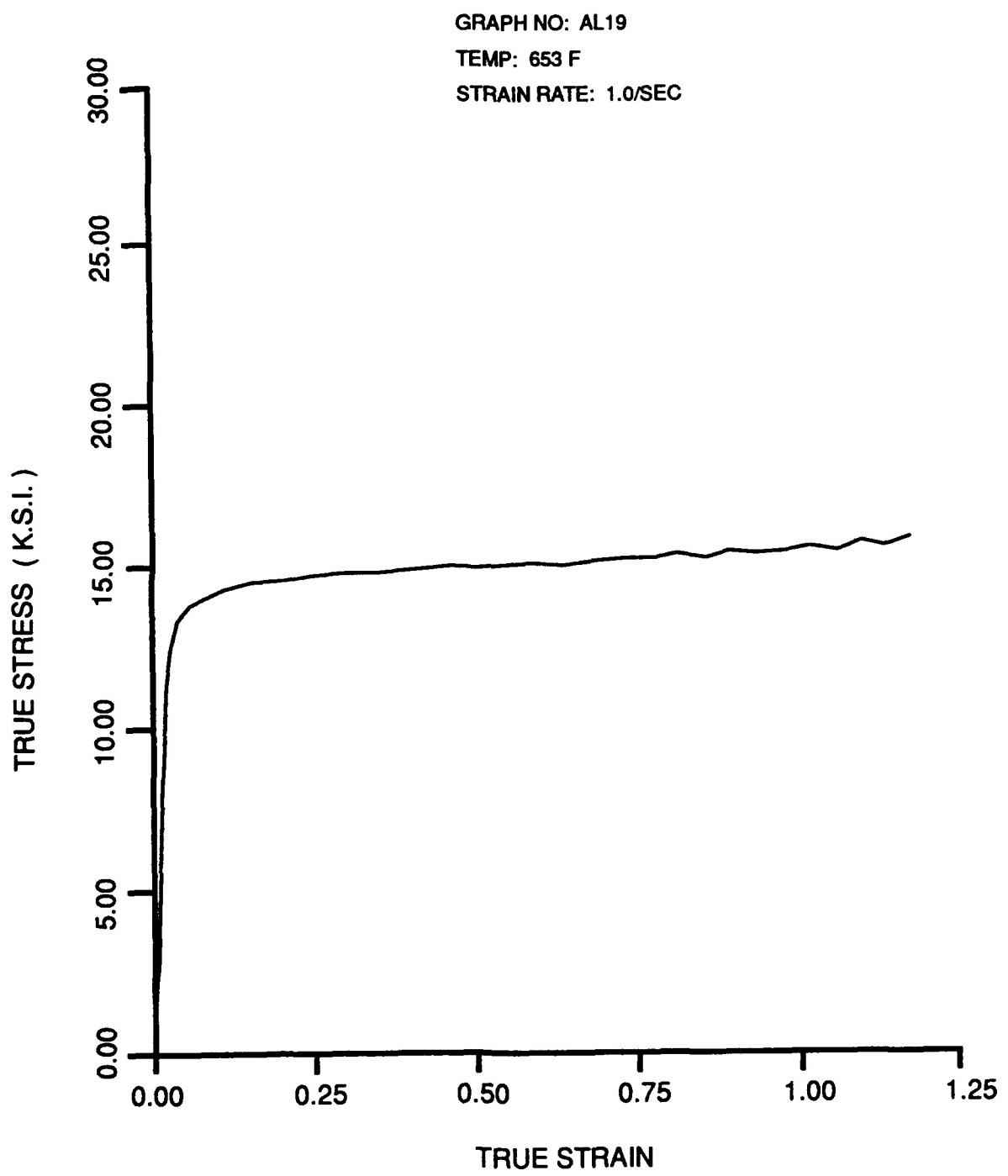
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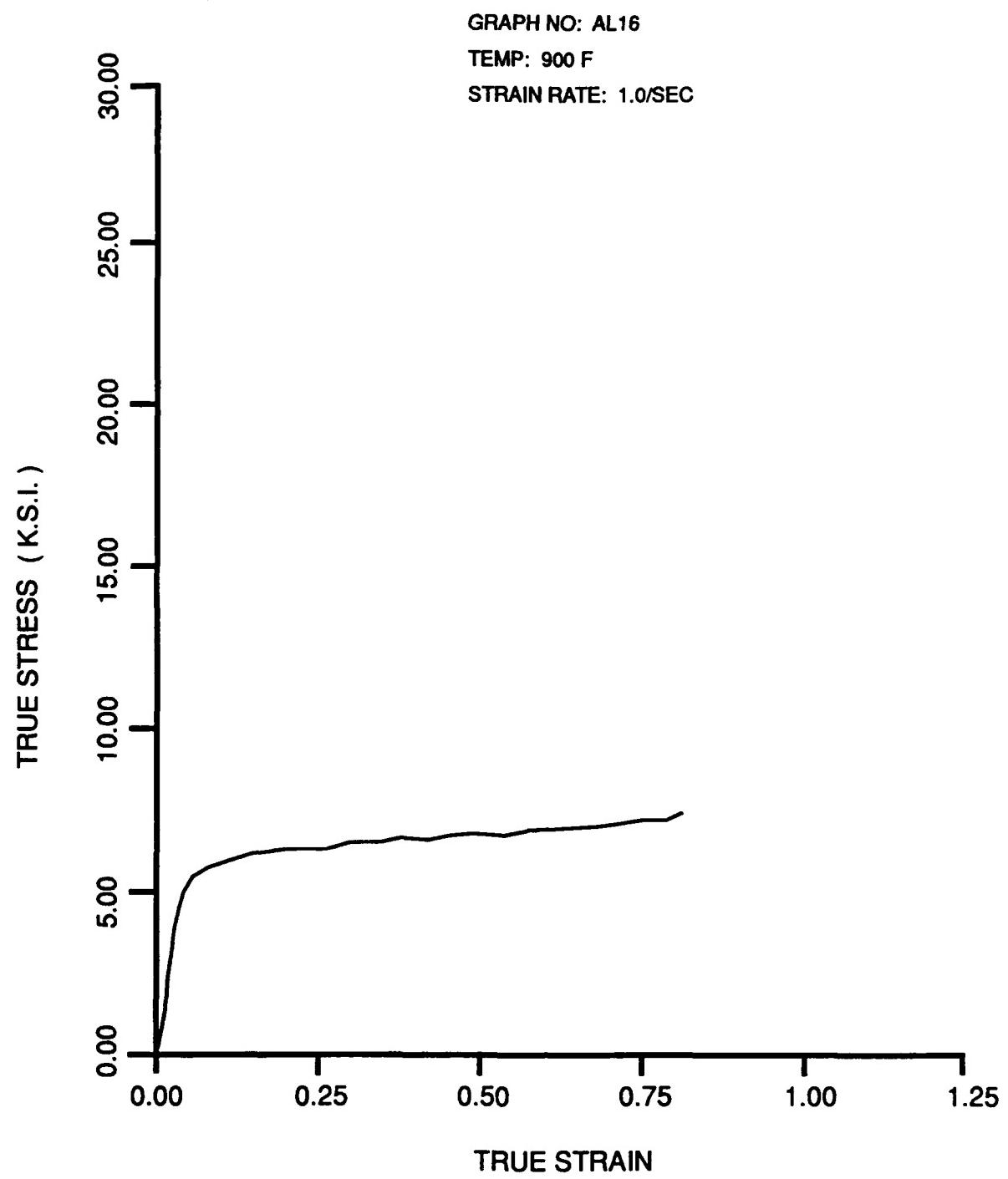
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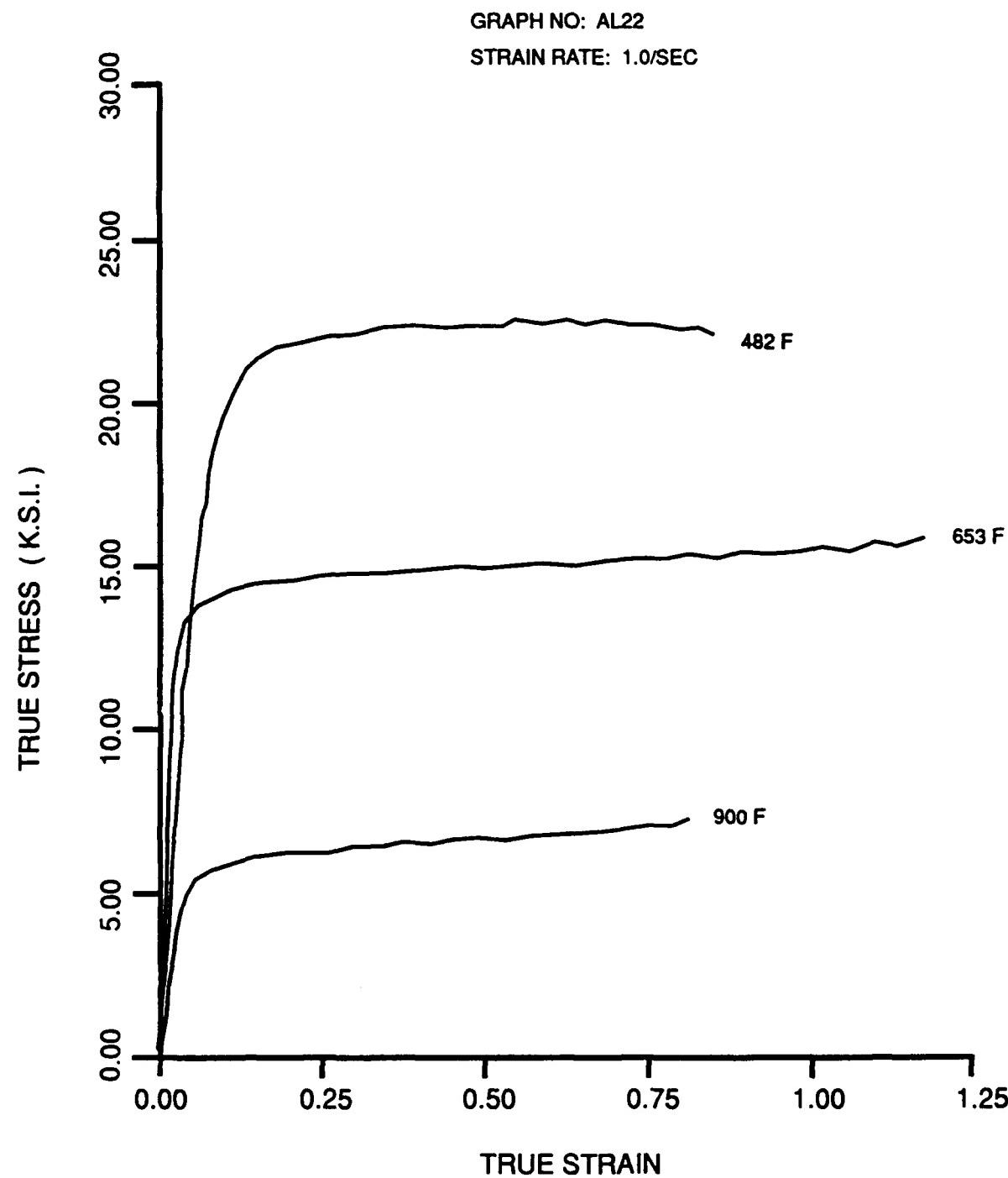
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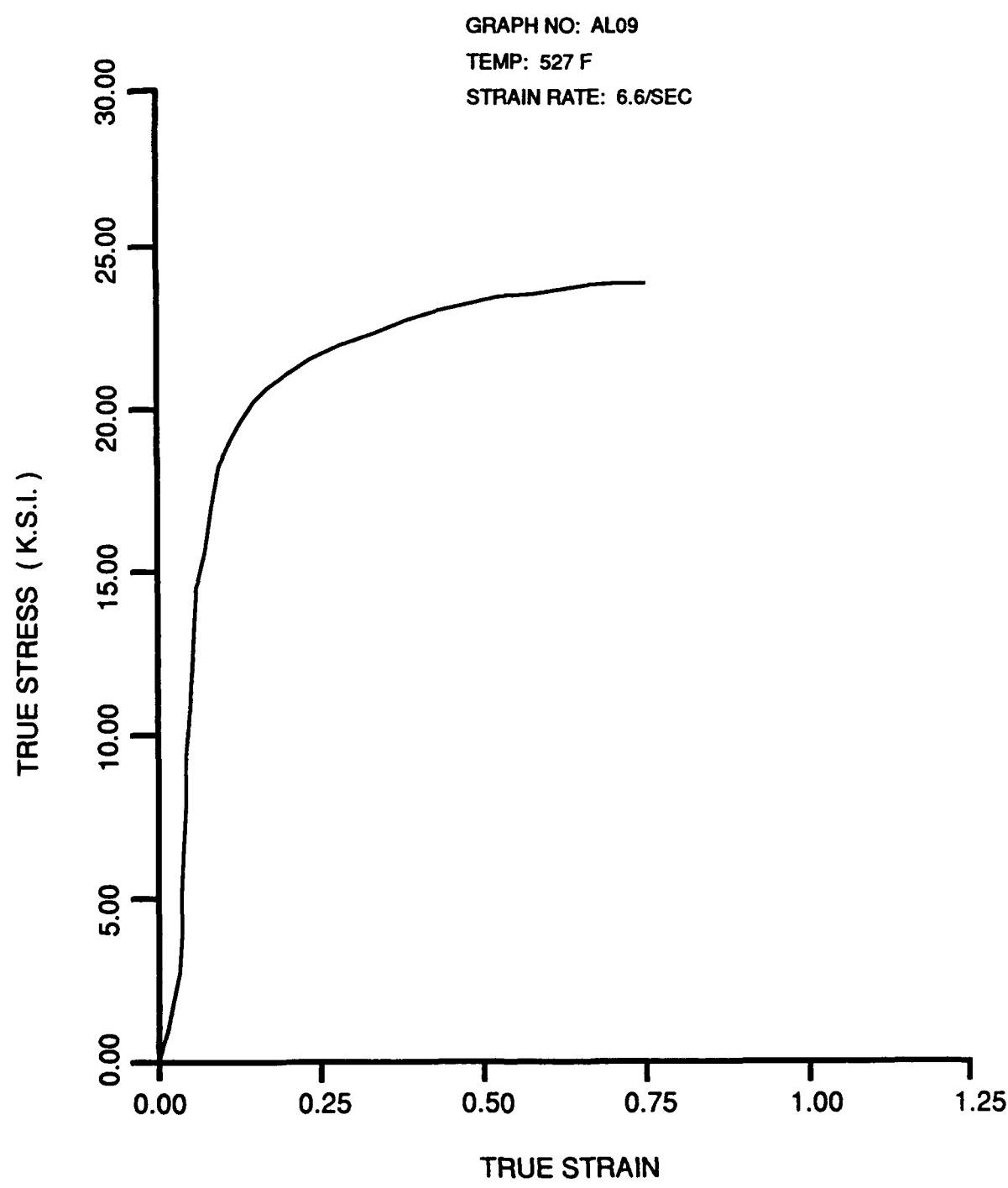
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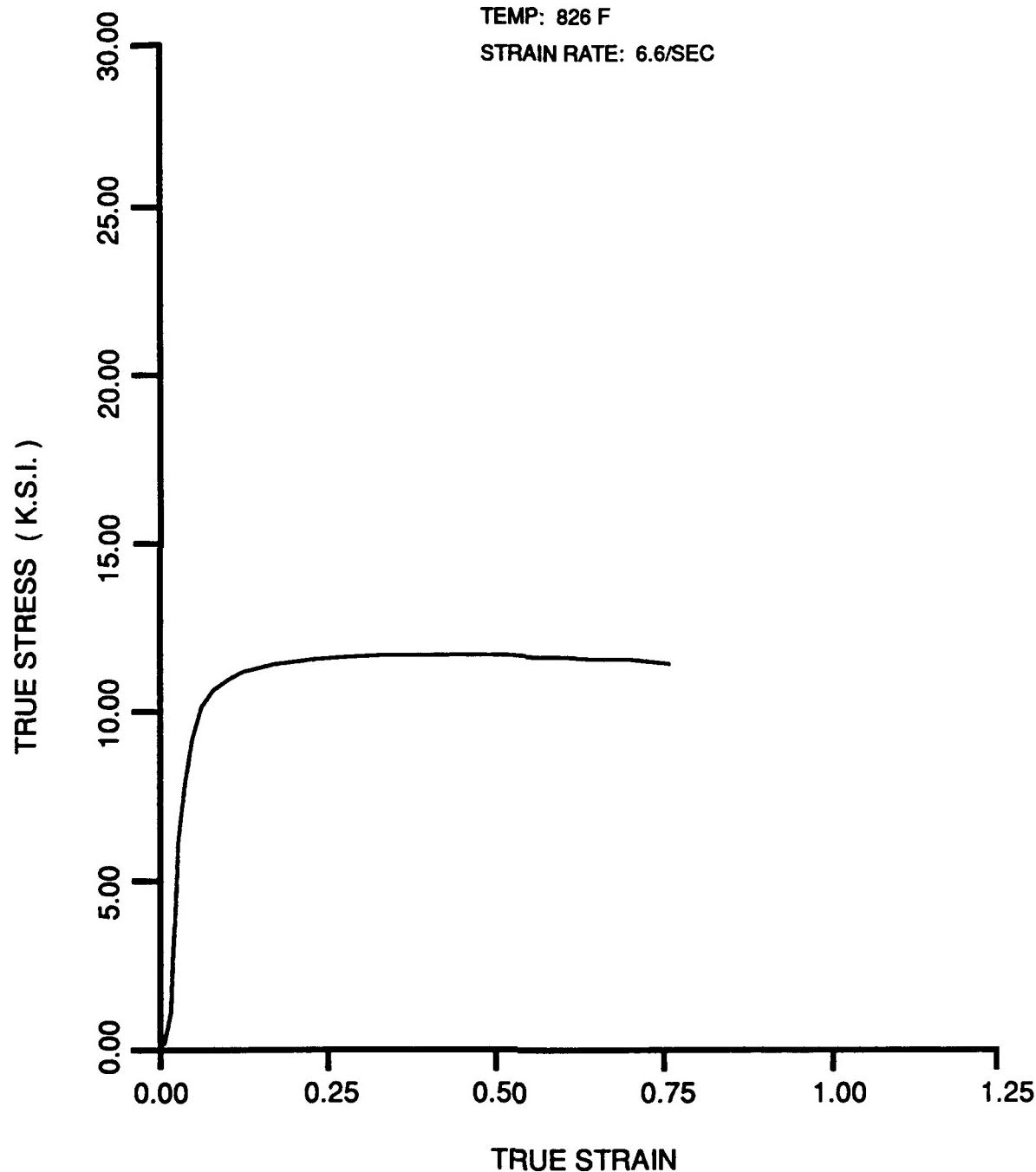


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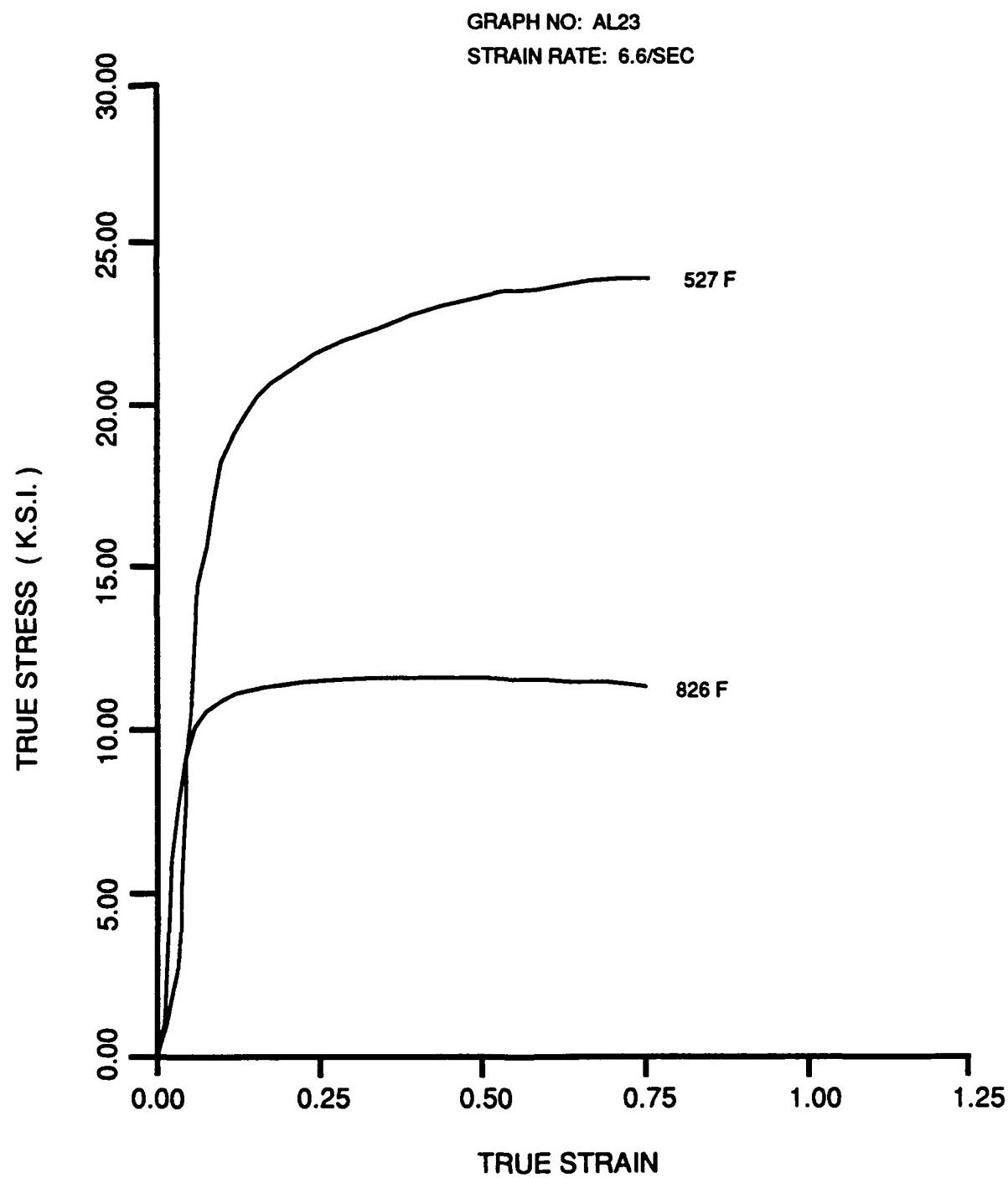


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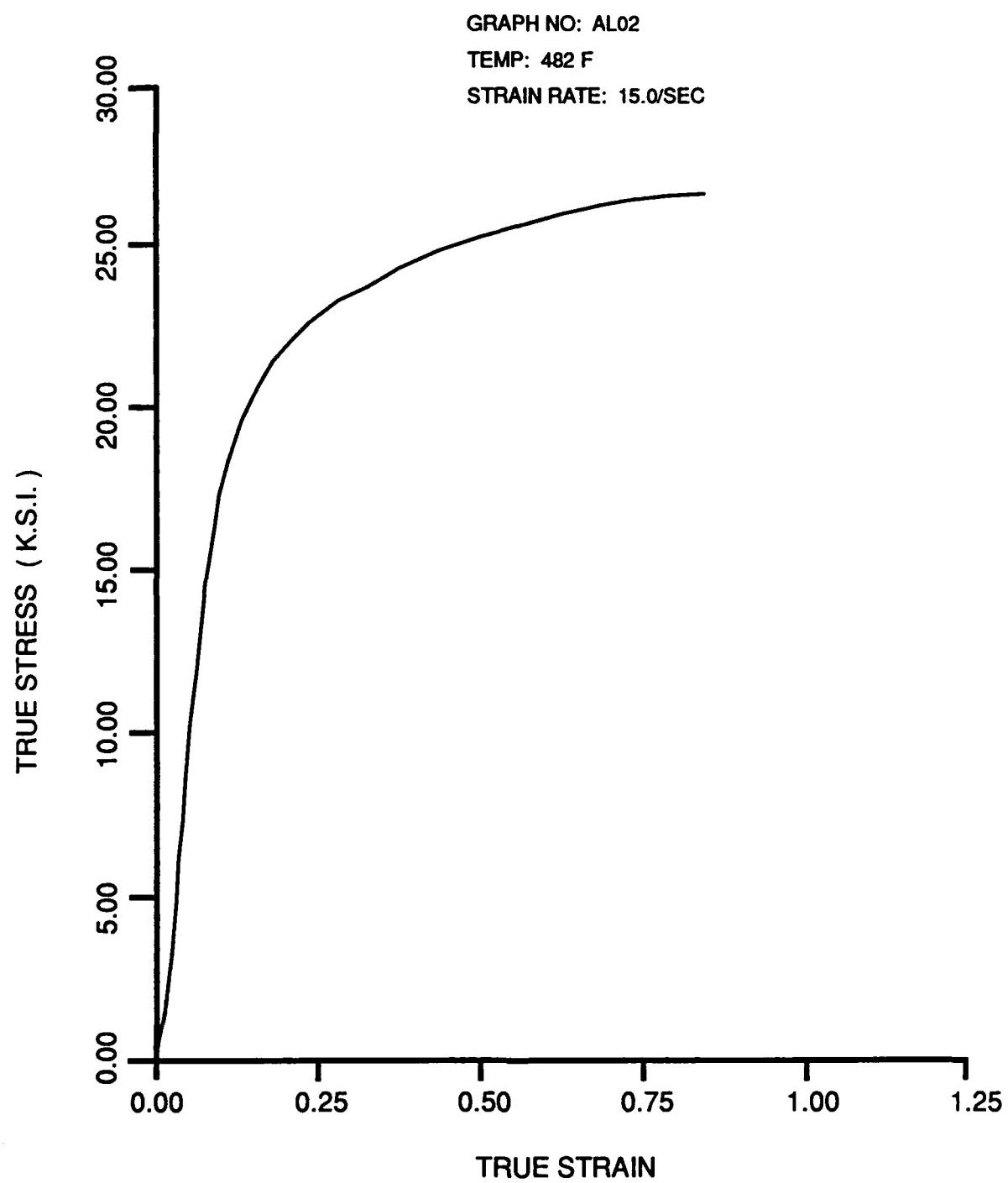
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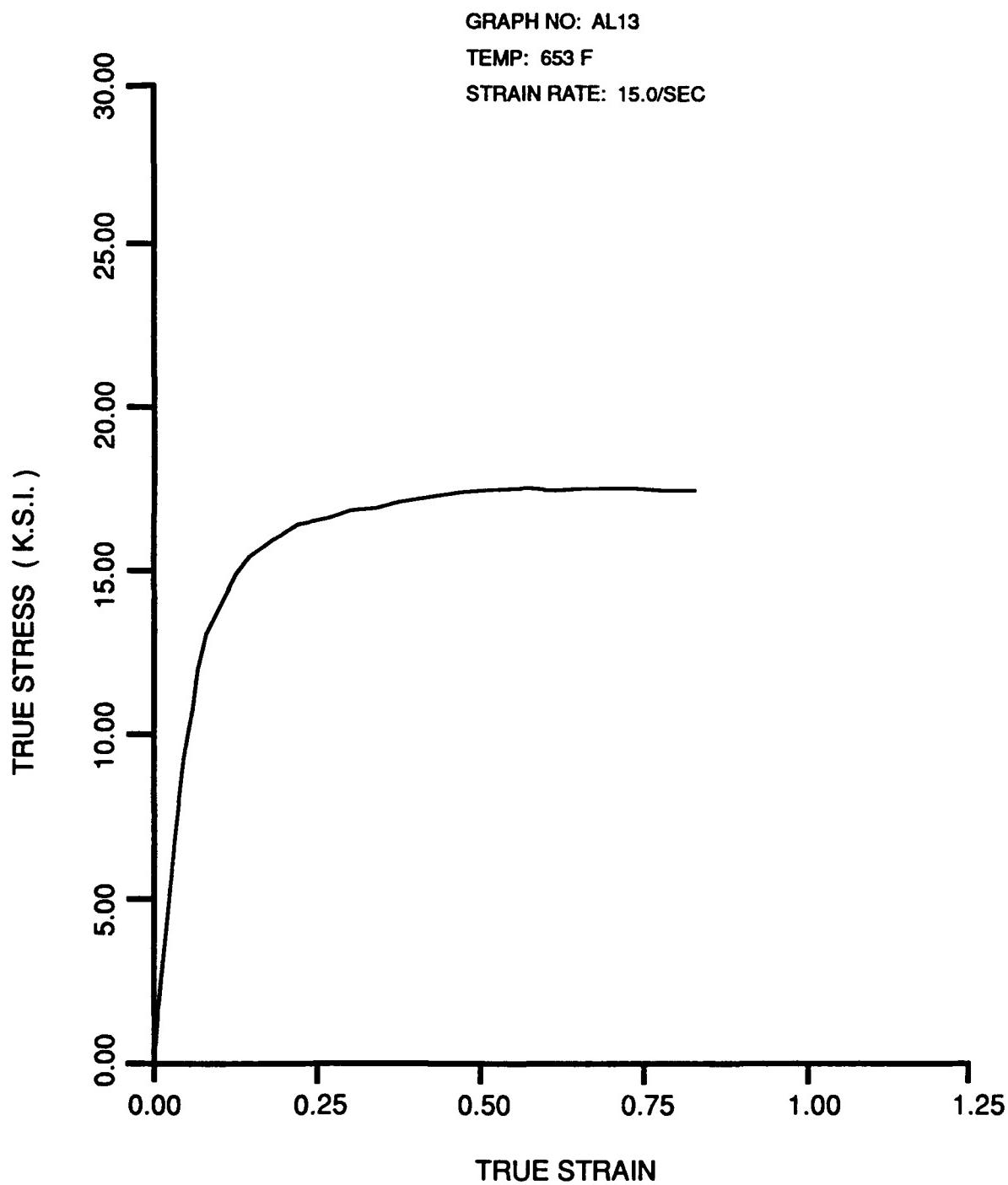
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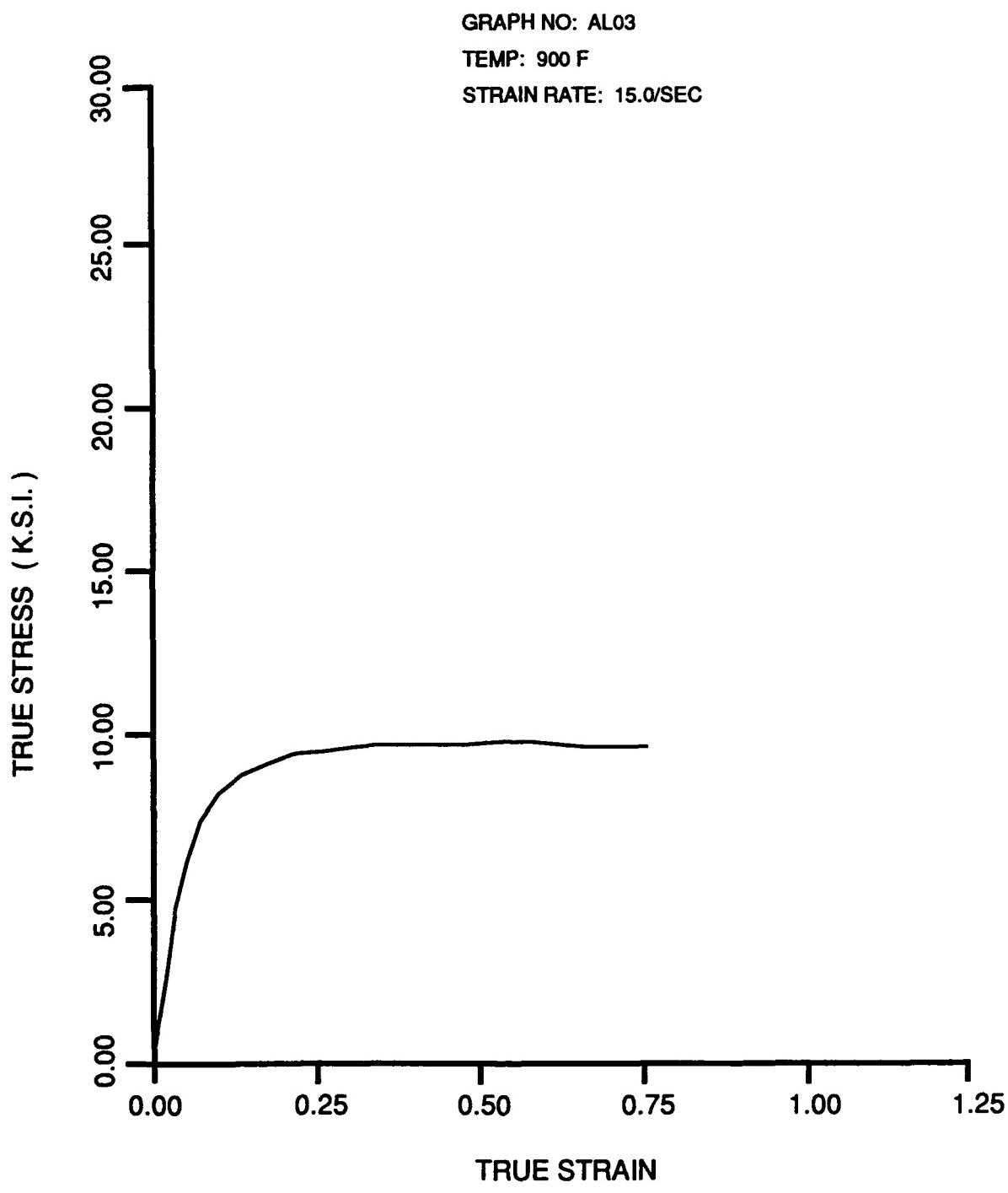
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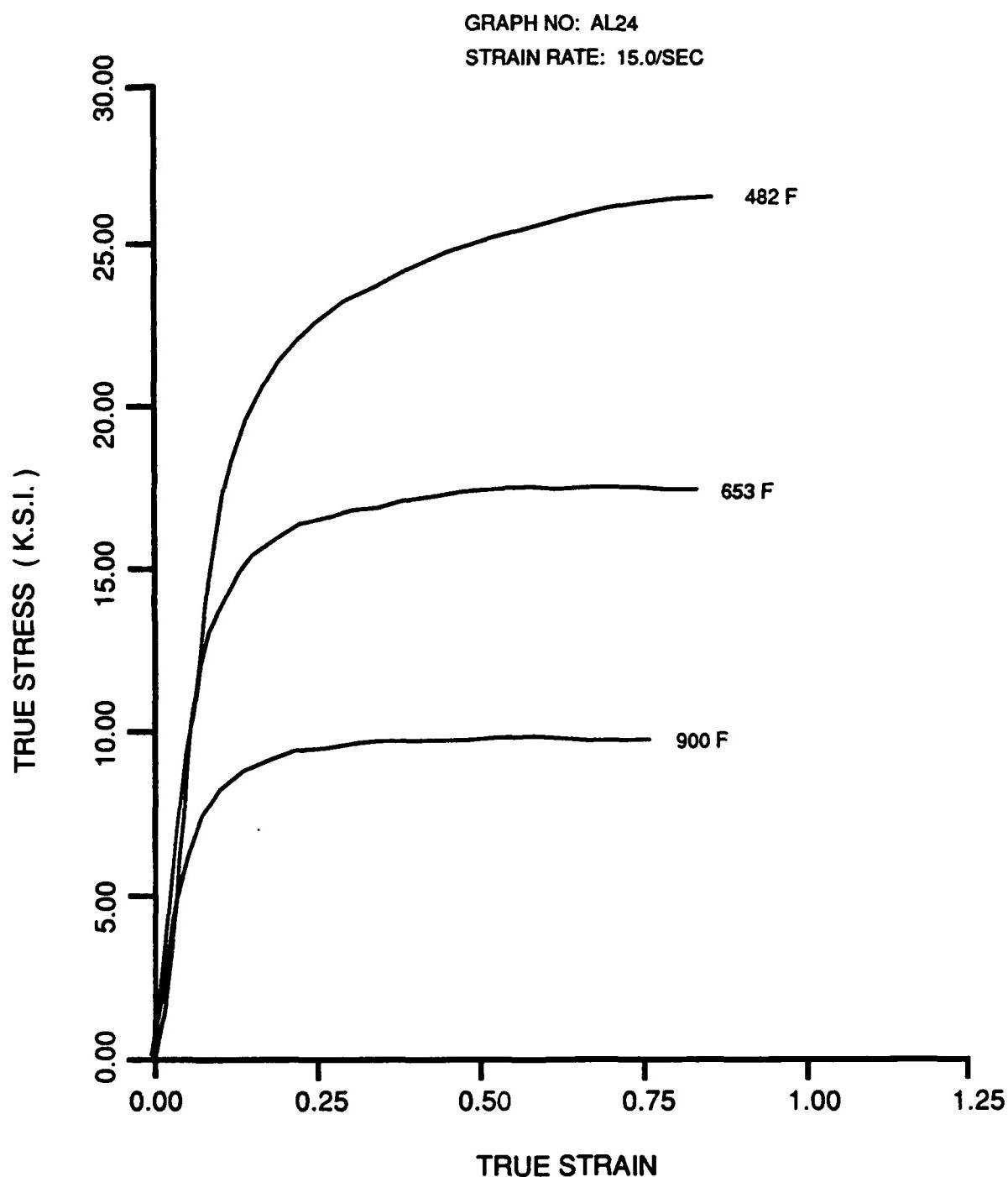
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